

Claims

1. A closing unit of a three-plate injection-molding machine comprising a die plate (1), a movable mold-clamping plate (2) and an end plate (3), wherein the die plate (1) and the end plate (3) are connected to one another via tie bars (4) on which the movable mold-clamping plate (2) is displaceably guided, and wherein a toggle-lever arrangement (5) on which a drive unit (6) acts is provided between the end plate (3) and the movable mold-clamping plate (2), characterized in that an encasing element (13) of variable length extends between the end plate (3) and the movable mold-clamping plate (2).
2. A closing unit according to claim 1, characterized in that the encasing unit (13) is constructed as a bellows.
3. A closing unit according to claim 1, characterized in that the encasing element (13) is constructed as a lining comprising at least two tunnel-like sheet-metal parts (14, 15, 16) that can be displaced telescopically relative to one another.
4. A closing unit according to claim 1, characterized in that

the encasing element (13) has an open structure in its lower region.

5. A closing unit according to claim 4, characterized in that the lower opening of the encasing element is disposed above a collecting trough.
6. A closing unit according to claim 1, characterized in that there is provided an encasing element that is closed on all sides and has a bottom drain and an air inlet.
7. A closing unit according to claim 1, characterized in that the encasing element (13) is braced on the tie bars (4) between the end plate (3) and the movable mold-clamping plate (2).
8. A closing unit according to claim 1, characterized in that the length variability of the encasing element (13) is limited to a partial region of its length.
9. A closing unit according to claim 1, characterized in that an intermittently operating lubricating pump is provided

for supplying the knuckle joints of the toggle-lever arrangement (5) with lubricating oil, the lubrication intervals being defined such that the number of working cycles per lubrication process does not exceed 2000.

10. A closing unit according to claim 1, characterized in that
a continuously operating lubricating pump is provided for supplying the knuckle joints of the toggle-lever arrangement (5) with lubricating oil.